

IN THE CLAIMS

Please amend the claims as follows:

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1. - .28 (Cancelled)

29. (Currently Amended) A display device, comprising:

a display panel having a plurality of separately addressable pixels for displaying said a three dimensional image, the three dimensional image being comprised of a plurality of different views, each view displaying a different image from the other views, each view corresponding to one of a plurality of different first viewing angles with respect to a first axis, the pixels being grouped into a plurality of groups, a number of pixels in each group corresponding to a number of the different views, each pixel of each group corresponding to one of the plurality of different views of the three dimensional image, wherein all the pixels in the plurality of groups corresponding to one of the views display the different image of the one of the views, wherein the number of pixels in a group determine an angular resolution of each of the views,

a display driver for controlling an optical characteristic of each pixel to generate a grey scale image according to received image data; and

a grey scale compensation device for optimizing grey scale rendering by compensating for a predetermined viewing angle dependency by compensating for variations in slope of the different transmission-voltage (T-V) characteristics of each viewing angle such that a grey scale displayed by said plurality of pixel groups is independent of the viewing angle, wherein a correction applied to each of the plurality of pixels within the group is different, and

wherein said compensation comprises using a different range of driving voltages for each pixel in a pixel group such that the T-V characteristic for each pixel in the group is closely matched.

30. (Previously Presented) The display device of claim 29 further including a back panel for providing a plurality of discrete sources of illumination, each group of pixels in the display panel being positioned to receive light from a respective one of the discrete sources of illumination.

31. (Previously Presented) The display device of claim 30 in which the back panel provides a plurality of line sources of illumination.

32. (Previously Presented) The display device of claim 30 in which the back panel provides a plurality of point sources of illumination.

33. (Previously Presented) The display device of claim 30 in which the display panel is a light-transmissive display panel adapted for viewing from a side opposite to a side on which the back panel is located.

34. (Previously Presented) The display device of claim 29 further including a lenticular array positioned adjacent to the display panel, each lenticle within the lenticular array focusing light from selected pixels in the display panel.

35. (Previously Presented) The display device of claim 34 in which each lenticle within the lenticular array is associated with a group of pixels.

36. (Previously Presented) The display device of claim 29 in which the display driver and grey scale compensation device in combination are adapted to control the amount of light passing through each pixel according to a grey scale image to be displayed.

37. (Previously Presented) The display device of claim 29 in which the grey scale compensation device comprises a look-up table containing correction values to be applied in respect of each pixel within a group.

38. (Previously Presented) The display device of claim 37 in which the correction values are selected according to a viewing angle of a respective pixel within a group.

39. (Previously Presented) The display device of claim 29 in which the correction values are selected so as to substantially normalise a grey scale intensity displayed by a group of pixels to be independent of viewing angle.

40. (Previously Presented) The display device of claim 37 in which the look-up table includes substitution values or offset values as a function of viewing angle to be applied to a frame store.

41. (Previously Presented) The display device of claim 29 in which the grey scale compensation device comprises a transmission versus voltage characteristic, and the grey scale compensation device is adapted to adjust a pixel drive voltage and/or current received from the display driver.

42. (Previously Presented) The display device of claim 29 in which the grey scale compensation device provides a voltage and/or current offset to the pixel drive voltage and/or current received from the display driver.

43. (Previously Presented) The display device of claim 29 in which inherent optical characteristics of the display panel are configured such that viewing angle dependence is reduced or substantially minimized relative to the first axis which is a y-axis.

44. (Previously Presented) The display device of claim 43 in which the grey scale compensation device serves to reduce or substantially minimize viewing angle dependence relative to the second axis which is an x-axis, wherein the second axis is orthogonal to the y-axis.

45. (Previously Presented) The display device of claim 44 incorporated into an object, in which the x-axis is defined as the horizontal axis when the object is in normal use, and the y-axis is defined as the vertical axis when the object is in normal use.

46. (Currently Amended) A method for displaying a three dimensional image on a display device, the three dimensional image being comprised of a plurality of different views, each view displaying a different image from the other views, each view corresponding to one of a plurality of different viewing angles, the method comprising the steps of:

processing image data to form pixel data values for each one of a plurality of separately addressable pixels in a display panel, the pixels being grouped into a plurality of groups, a number of pixels in each group corresponding to a number of the different views, each pixel of each group corresponding to one of the plurality of different views of the three dimensional image, wherein all the pixels in the plurality of groups corresponding to one of the views display the different image of the one of the views as a function of an angle with respect to a first axis, the pixel data values each for controlling light transmission characteristics of a respective pixel to generate the different image;

applying grey scale correction values to a plurality of pixel data values within each group to optimize grey scale rendering by compensating for a predetermined viewing angle dependency by compensating for variations in slope of the different transmission-voltage (T-V) characteristics of each viewing angle such that a grey scale displayed by the plurality of pixel groups is independent of the viewing angle and for compensating for an optical characteristic of each pixel in a second axis of the display panel, wherein the second axis is transverse to the first axis, by controlling an amount passing through each pixel according to a three dimensional grey scale image to be displayed, wherein the grey scale correction values applied to each of the plurality of pixels within the group are different; and

using the corrected pixel data values to drive pixels of a display panel to generate said image

wherein the number of pixels in a group determine an angular resolution of each of the views, and

wherein said compensation comprises using a different range of driving voltages for each pixel in a pixel group such that the T-V characteristic for each pixel in the group is closely matched.

47. (Previously Presented) The method of claim 46 in which the grey scale correction values are obtained from a look-up table containing correction values to be applied in respect of each pixel within a group.

48. (Previously Presented) The method of claim 46 in which the grey scale correction values are selected according to a viewing angle of a respective pixel within a group.

49. (Previously Presented) The method of claim 48 in which the grey scale correction values are selected so as to substantially normalise a grey scale displayed by a group of pixels to be independent of the viewing angle.

50. (Previously Presented) The method of claim 46 in which the grey scale correction values are derived from a transmission versus voltage characteristic of the display panel, the corrected pixel data values being used to adjust a pixel drive voltage and/or current applied to the display panel.

51. (Previously Presented) The method of claim 46 further including the step of configuring inherent optical characteristics of the display panel such that viewing angle dependence is reduced or substantially minimized relative to the first axis which is a y-axis.

52. (Previously Presented) The method of claim 46 in which the grey scale correction values are applied to reduce or substantially minimize viewing angle dependence relative to the second axis which is an x-axis, wherein the second axis is orthogonal to the y-axis.

53. (Previously Presented) The method of claim 52 in which the x-axis is the horizontal axis when the display panel is in normal use, and the y-axis is the vertical axis when the display panel is in normal use.

54. (Previously Presented) A computer program product, comprising a storage medium having thereon computer program code that is executable when loaded onto a computer, comprising:

instructing the computer to execute the method of claim 46.